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PERIODICALS.

MIND. January, 1891. No. LXI.

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On Physiological Expression in Psychology. In opposition to the "subjective purism" in psychology advocated by Mr. Stout and Mr. Bradley. The mixture of the psychical with the physical is such as to prove that mental processes, however distinct from bodily processes, have never owned even a vocabulary of their own. Pleasure and pain are psychical states, but we cannot theorise fully upon them without adverting to their physical causes or conditions. The action of drugs proves that the physical constitution of the nerve-substance is a paramount condition of our sensibility, pleasurable or painful. By taking the organs of special sense in separation we can exhaust the modes of sensibility under each, and when we look minutely into the anatomy of the several organs, we obtain further helps to the subdivision and distinction of the individual sensations. Connected with the physics of the brain, apart from the nervous substance and its conditions, is the important state known as excitement, with its opposites quiescence, languor, repose, drowsiness, sleep, and insensibility. The theory of the Will must rely, in the first instance, upon subjective sequences, but the physical consequences of pleasure and pain are a two-fold activity—Expression and Volition, and for verification of any hypothesis as to priority between these two forms of the physical outcome of feeling, the sequence must be taken on the physical side alone. As regards the emotions, taken in themselves, the tracing of physical concomitance is unavoidable. In Psychophysics the experiments are made upon the physical side, though not to the exclusion of subjective reference. A law relating to the seat of ideas obtained in the first instance through the senses, declares the nervous tracts to be the same in both, thus

connecting Sense with Intellect. It has always been impossible to avoid describing ideas as modified repetitions of sensation, and employing for that purpose the materialism of the sense-organs. While eminently applicable to all the phenomena of mind at their elementary stage—Sensation, Intellect, Emotion, Will—physiological conditions cease to have the like bearing in the higher complications. In all that part of Association that states the order of recurrence of our ideas in Memory, subjective investigation is paramount and exclusive. But the state described as conscious intensity, excitement, mental concentration, attention, interest, is expressible both subjectively and physiologically. The constant application of spiritual remedies to bodily ailments is an important aspect of the union of mind and body, and their interaction in those instances is of great significance.

Apperception and the Movement of Attention. Thinking is action directed towards intellectual ends. Intellectual ends are attained by an appropriate combination of movements of attention. Attention and apperception, as this word is applied by Steinthal, reciprocally determine each other. The nature of attention is explained in accordance with the monoideism of M. Ribot, but contrary to his view it is declared to be a constant character of our mental life, although the monoideism is not always complete. Apperception is the process by which a mental system incorporates or tends to incorporate a new element. The effect of attention is largely dependent on the apperception which accompanies it, and of which it is an auxiliary process. The movement of attention fastening upon the presentation to be apperceived, fixes it in the focus of consciousness, until the apperceptive system has finally succeeded or failed in assimilating it. The reason why one ideal group becomes apperceptive in preference to the others lies mainly in its greater affinity with the presentation to be apperceived. The conditions determining the strength of apperceptive systems may be either extrinsic or intrinsic. The extrinsic consist in passing circumstances which from time to time favor its activity. The intrinsic conditions are inherent in the constitution of the system itself. Among the former are the co-operation of another system; the recovery or the intensity of its own previous action; the influence of organic sensation; its own freshness arising from previous repose. Of these the organic sensation is of fundamental importance. The influence of the *cœnæsthesis* pervades the whole mental life. Every specific kind of emotion is accompanied by a characteristic mode of organic reaction. The intrinsic conditions are the comprehensiveness of the system; its internal organisation, of which the philosophy of Hegel is cited as an example; the strength of the cohesion between its parts; the nature of the sensory material which enters predominantly into its composition, that is, the comparative excitability of ideas derived from different senses. The normal working of competition, co-operation, and conflict, may be illustrated by contrasting it with the pathological state called *suggestibility*, in which those processes are more or less completely in abeyance. The conditions which determine the train of ideas arise from the fact that attention, being a motor process, depends on feeling, which dependence cannot be separated from that on apperception. Feeling gives unity to mental process, and is a simple mode of consciousness resulting from the excitement of a multiplicity of elements, and it causes attention to be concentrated on the central presentation from which the wave of excitement is radiated. The essential characteristic of a train of *thought*, as distinguished from a mere train of ideas, is that the relation linking each idea to its predecessor forms also a source of the interest through which it attracts attention. The ground of the distinction is that thinking involves the activity of a proportional system as such, that is "a system adapted to apper-

ceive objects in other respects most diverse from each other, merely because they agree in being capable of entering into certain relations." The modified working of the principle of association through the apperceptive activity of a proportional system, is *proportional* or *analogical production*, which may possibly operate in every instance of the suggestion of one idea by another. A reversion of attention to a previous link in a chain of ideas, giving rise to a modified repetition of it, is a distinctive feature of *thinking*. In a separate article will be dealt with the special part played by language, which from a psychological point of view is "a peculiar movement of attention having a peculiar influence on apperceptive process."

Helmholtz's Theory of Space-Perception. The doctrine of "unconscious inference" is explicitly founded upon the general theory of knowledge formed by Helmholtz, which is identical with that of Kant, and Helmholtz's investigation into the genesis of space-perception applied to the problem which Kant did not consider, namely, the perception of particular or concrete spaces. The distinction made by the former between the inference from the data of sense and that in which the data are consciously known to be signs, by calling the inductive inferences of the sciences *conscious*, and those involved in external perception of world *unconscious*, is open to the charge of involving a contradiction. On the one hand, the theory of "unconscious inference" supports the empirical doctrine of perception only in consequence of calling the process an inference. On the other hand, to call the process "unconscious" is to restore the conception of immediacy which the idea of inference is supposed to exclude. This contradiction may not be insisted on, but, as the phenomena of binocular adjustment discussed in a previous article showed in the visual consciousness a *quale* which, with or without its relation to tactual and muscular extension, was other than plane dimension, Helmholtz must, unless this *quale* can be proved to be result of inference, limit the application of his theory to the synthetic connection between touch and sight. *Parallax of motion*, which consists of the different afferent movements or velocities of bodies in horizontal meridians, and situated at different distances from the observer, seems to do the same for monocular vision that adjustment and fusion do for binocular vision. The phenomena attending certain experiments in which the parallax of motion was observed "correspond exactly to the conception of those who hold that the representative of plane dimension in the retinal image decides the nature of all perceptions whose character is not presented in the image except as a visual sign, and hence that aught beyond magnitude must be the result of influence." An examination of Helmholtz's fundamental principle, "the denial of all pre-established harmony between the nature of impressions and the nature of the external world," confirms the view that the conception of space may be properly a visual one, requiring the superior constancy of touch to correct illusions growing out of the complexities of vision. If we limit visual phenomena as data to mere variations of kind and distinctness in color, we cannot account for such cases as the appearance and inversion of mathematical perspective, binocular localisation and translocation, and the distinct effect of the monocular parallax of motion, qualities which are dimensional in their nature. "While the complexities of space-perception make the co-operation of inferential agencies very probable, yet the spacial quality must be originally given somewhere in consciousness either as an object of perception or as a mental construction, in order to furnish a basis for inferences to its existence or its relations where they are not immediately cognised. This makes the developed conceptions of abstract and synthetic space a complex of inferences and intuitions."

The Principle of Induction. The ultimate major premiss of Induction accord-

ing to Mill is the Law of Causation which, as he treats it, is a wide generalisation true of sequences just as other generalisations are true of the facts of space. Hence it is itself an induction like other inductions. What is wanted is "an axiom expressing in general terms what we do when we make a particular statement universal, which makes explicit the truth implied by the making of any generalisation whatever." The Law of Causation will be found to be a particular application of this wider axiom, and the axiom itself must be sought from the analysis of ordinary simple generalisations. When we connect truths together, or reason, we *support* an inferred judgment by some other assertion. That we should be able to reason at all involves that any fact, as *B*, should have some other fact, as *C*, to which it is always related; that is, "any fact precisely resembling this *B*, whatever its other attributes and concomitants may be, will be found in a precisely similar relation to a precisely similar *C*." A relation exists between two facts whenever the mind can at once distinguish the facts as two, and at the same time attend to them together and assert something of them considered together. We may speak of a relation between different aspects of the same existing thing. The three alternatives afforded by the axiom as ultimately stated correspond to the three cases in which *A* is the "sum of the conditions of *B*," or in any way a universal correlate of *B*; in which it is the cause of *B* in the popular sense of the term; and in which its connection with *B* is merely 'causal,' that is, "the Law of Causation is the Axiom of Reasoning as applied to the sequences of phenomena." Every fact observed stands in universal relation to some other fact. The judgment of that relation "is implied in the rudimentary inference which states only the particular fact observed and the particular fact now expected. It is explicit in the reason that is conscious of its own grounds and methods, and takes there the form of the universal judgment, or major premiss."

The Undying Germ-Plasm and the Immortal Soul. All unicellular beings such as the Protozoa and the simpler Algæ, Fungi, etc., reproduce themselves by means of simple fission, and consequently they are immortal. All the single individuals of a family of unicellular beings belong to each other, although they be isolated. Amongst certain infusoria they do, in fact, remain together and build up branching colonies. Later on, division of labor made its appearance and increased the dependence of the individuals upon one another, so that their individuality was to a great extent lost. By the development of this process, multicellular Metazoa arose from colonies of similar Protozoa, and at length culminated in the higher animals and man. All the cell-series are immortal, but they all must die because the structure which is built up by them collectively is mortal. The reproductive cells are the only kind adapted for existence outside the body, and from time to time some of the human reproductive cells succeed in conjugating, and from them a new individual arises. The whole structure of man is acquired with the one object in view of maintaining the series of reproductive cells, of which he is, so to speak, the slave. They are the most important and essential and also the undying parts of the organism. The series of reproductive cells thus possess the essential attributes of the human soul. If we compare the conception of the soul as held by various related religions, and take the characteristics invariably ascribed to the soul, we find that they hold also for the series of reproductive cells continually developing within the body. The ordinary conception of the fate of the soul after death agrees fundamentally with the result of observation on the prosperity of the series of germ-cells. That fate depends on conduct in the body, and the only possible definition of a good deed, that is approved by conscience, is one which will benefit the series of germ-cells

arising from one individual, that is ourselves and our family, and further which will be of use to others with their own series of germ-cells, and that in proportion to the degree of connection or relationship. Thus, "the apparently enigmatical conception of the eternal soul is founded on the actual immortality and continuity of the germ-plasma." (London: Williams & Norgate.)

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- A NEW STUDY OF PSYCHOLOGY. By *Prof. Josiah Royce*.
- THE INNER LIFE IN RELATION TO MORALITY. By *J. H. Muirhead*.
- MORAL THEORY AND PRACTICE. By *Prof. John Dewey*.
- MORALS IN HISTORY. By *Prof. Fr. Jodl*.
- THE ETHICS OF DOUBT—CARDINAL NEWMAN. By *W. L. Sheldon*.
- THE ETHICS OF SOCIALISM. Steinthal—The Social Utopia; Paulsen—Socialism and Social Reform. By *Prof. Franklin H. Giddings*.
- ETHICAL AND KINDRED SOCIETIES IN GREAT BRITAIN. By *Mrs. M. McCallum*.

A New Study of Psychology. There are three fairly distinct types of treatment in text-books of psychology. The first type, is the science of the "mind" considered as an entity, of whose nature we might otherwise know much or little, but of which we at all events knew that it had a certain substantial unity. This was supplemented, or succeeded, by the theory of the 'ideas,' and their 'associations.' A third method confines its investigations to the facts and laws of the nervous system, with only such use of introspection as was found absolutely indispensable. Professor James, in his "Principles of Psychology," does not accept primarily any one of these views. The unit he adopts in mental analysis might be defined as "so much of the mental process as may be supposed to run parallel to a relatively simple nervous function in the cortex of the living brain, in so far as this cortex functions with a certain unity." Professor James rejects the unconscious in every form, and above all the unconscious mind-atom. He says, "the special natural science of psychology must stop with the mere functional formula. If the passing be the directly verifiable existent, which no school has hitherto doubted it to be, then that thought is itself the thinker, and psychology need not look beyond." This life of passing thoughts needs only the fundamental hypothesis that the moments as they pass really know one another, that the present is actually acquainted with the past, in order to give as a resultant of the whole life such unity as we need for purposes of psychological science. In relation to volition and freedom, Professor James holds that the idea of the end tends more and more to make itself all-sufficient, and that "motives," so-called, are "ideas of ends" which owing to their conflict, are unable to pass over into acts so long as they remain mere motives. The experience of deciding a conflict of motives is "the experience of the triumph of one idea of the end over other ideas." The act of voluntary decision is experienced as an act of "conscious attention to an idea," and nothing else. Volition is primarily a relation, "not between ourself and extra-mental matter, but between ourself and our own states of mind." Professor James's own belief is that the question of freewill is insolvable on strictly psychological grounds, although on ethical grounds he ascribes to the alternative of freedom. In relation to the question of pleasure and pain as

motives, he points out that the 'idea-motor' acts, even on a very high plane, express the presence of the 'idea of an end,' and this end may itself be very painful, yet it tends to carry itself out. It wins because we attend to it, and whether or no attention is free, certain it is that attention often rather determines pleasure and pain themselves, than is determined by them. In conclusion Professor Royce says in relation to Professor James's book: "His 'passing moments,' which can 'know' and which can freely 'attend,' which are 'self-related,' and which have 'unity,' and which are still so intimately bound to the 'neural process,' have just the paradoxical and hypothetical character which requires one, in one's philosophy, to go beyond them, and to declare them but illusory expressions in phenomenal form of an infinitely deeper truth."

The Inner Life in Relation to Morality. The emotions that are called up by the thought of the world as an organic whole constitute the inner life, that which Clifford calls 'cosmic emotion.' These emotions, although they do not end in the human soul, impart a spirit and diffuse an air over the rest of life: they have no separate external expression of their own. The pivot of man's inner life is the thought of himself as a part or member of a universal order. The object of the paper is to answer the questions: what this thought is, or ought to be; what are some of the forms which the feeling it rouses takes; what are some of its special relations to social morality; and what practical means may be suggested under modern conditions for the cultivation of it. The view of the world most characteristic of the time in which we live, has laid the foundation for an entirely new attitude of mind towards the cosmos at large. The world is now known to be an organic whole. This organism is the invisible background which is presupposed in the partial glimpses of it which we call common perception and the special sciences. If we look *inwards* we have the *human conscience* as the symbol of a microcosm of moral relations between the different parts of our nature on the one hand and the different members of human society on the other. The cosmic principle clothing itself in the twofold garb of which we know it, is the ultimate object of the emotion described as the inner life. This brings with it that which lies at the root of all religion—the sense of dependence, by which is meant, the feeling that we are born into and supported by a world which our individual wills did not make. This at first produces a vague sense of fear in the presence of forces other and mightier than ourselves. But generally it has passed in us into a higher form, a sense of fearless faith in truth and right, which are the laws of nature. The faculty of relating ourselves to the world in its widest, which is also its deepest, aspects, with its appropriate feeling invests our everyday duties with a new meaning, and gives them a wider range by connecting them with the general life of the world. Morality is thus raised to a higher power; it passes from "mere morality" into "morality touched with emotion," and thus becomes a species of religion. Among other means of cultivating the inner life are the attending the *services* of the churches, although faith has been lost in their dogmas; the reading of the books, whether belonging to Christian literature or not, which are in the best sense religious; the study of philosophy. We are on the right lines if we cling to the great watchwords of our own time,—Evolution, Progress, Organic Order.

Moral Theory and Practice. Moral theory is the analytic perception of the conditions and relations in hand in a given act,—it is the action in idea. It is the construction of the act in thought against its outward construction. It is, therefore, the doing,—the act itself, in its emerging. So far are we from any divorce of moral theory and practice, that theory is the ideal act, and conduct is the executed in-

sight. Moral conduct is absolutely individualised, and it is precisely that which realises an idea, a conception. The breadth of action is measured by the insight of the agent. Just so far as the question, What are the conditions which require action and what the action they demand, is raised and answered, is action moral and not merely instinctive or sentimental. This is a work of analysis, which requires the possession of certain working tools. What we call moral rules are precisely such tools of analysis. The Golden Rule is a marvellous tool of analysis but it gives no knowledge, of itself, of what we should do. As a tool of analysis the moral rule is an idea. A philosophic theory of ethics is a similar idea to the Golden Rule, but one of deeper grasp, and therefore wider hold. It bears much the same relation to the particular rule as this to the special case. It is a tool for the analysis of its meaning, and thereby a tool for giving it greater effect. At the back of the Golden Rule are other larger ideas which have realised themselves, and been so buried in the common consciousness of men, that they have become integrated with the content of the Golden Rule which itself has become a vast idea, or working tool, of practice. Every philosophic theory of ethics performs in its degree this same service. A man's duty is, not to obey rules, but to respond to the nature of the actual demands which he finds made upon him. The rule is merely an aid toward discriminating what the nature of these relations and demands is. A man has not to do Justice, and Love, and Truth; he has to do justly and truly and lovingly. The relative distinction between the "is" and the "ought," is that the "ought" is the "is" of *action*. The difference between a practical and a theoretical consciousness is that the former is consciousness of *something to be done*. And this consciousness of something to be done is the consciousness of duty. Theory is the cross-section made by intelligence of the given state of action in order to know the conduct that should be; practice is the realisation of the idea thus gained: it is theory in action.

Morals in History. A glance at the history of morals reveals independence and changeableness always and everywhere side by side. So far as we are acquainted with man in social community, the will of the community speaks to the individual concerning his practical conduct with authority; and as an inner appropriation of that will, "the authority of conscience, of practical reason, which naturally exists only in the individual, but through friction with the community becomes filled with a universally valid content." The origin of the common will is lost in the mysterious darkness of primitive times, or of divine revelation. It is science which first extends the individual's circle of experience. Morality is a product of evolution, and is in a state of continual transformation. The sum of the ethical principles or ideals which at any time are current in any nation, presents nothing else than the conception of all that is reciprocally required in a practical direction of its members, for the advantage and profit of the community and the individual persons in it. The requirements of social adaptation are raised into the consciousness of the community. Thus full harmony between the practical needs of a time and its ethics can only be a transitory one. The conditions which evoke the individual will to carry out its own ideals over against the current ones, are none other than those upon which the formation of new organs in general is dependent. The new principles must be of assistance to felt needs; they must be founded in the vital relations of the social body. In answer to the question whether there is progress in morality, it must be said that the circle is becoming continually greater of those over whom the strict import of the conception of humanity is extended. And this is accompanied by an increasing tenderness towards individuals within the limits unchangeably set by the needs of the community. The means by which we strive

to actualise our ideals are becoming more rational, and "the consciousness is continually becoming clearer, with which all moral principles and judgments are referred to what they signify for the welfare of the race and for its capacity to develop." But do men become better? Probably, on the whole, the inner relations of morality remain unchanged, although quite important shifting may take place at special times and in special stages. It may be that "considered from the highest historical point of view, subjective morality—that is, the conformity of individuals to the standard—relatively declines as the higher elaboration of the moral ideals advances." But this need by no means be the last word of historical development. Intelligence carries illumination into unknown paths which no one as yet has traversed, making the surrounding darkness blacker. But the will finds the means of achieving what is clearly conceived. We have no occasion to be distrustful of the energies of our race. We must not overlook the increasing influence which our scientific knowledge must exercise, not only upon the industrial but also upon the social instinct. The conviction is making rapid strides that even the widest lordship of man over nature must ultimately be a curse to the ruler himself, unless he succeeds in establishing the more beautiful and important supremacy over man; that is, over the natural forces in his own breast—the brutality of passion, the hardness of egoism, and the crudity of moral ignorance. But this can be the work only of scientific knowledge and of its increasing application to social ethical problems.

The Ethics of Doubt—Cardinal Newman. There was an ethical trend in the character and spirit of Cardinal Newman, which lifted him above any one sect or creed and made him a power to all classes of serious minds. The especial influence now excited upon us by his thought, comes from his very antagonism to what is the conspicuous feature in the intellectual life of our century,—the prevalence of doubt, and the growth of rationalism. Goethe sounded the note of warning as to the chief menace that would come to our age through rationalism; that there are few who have a great mind and at the same time are disposed to action; intellect broadens the thought, but tends to weaken the will. Newman has brought it home to us that there is a certain kind of rationalism which is dangerous to character, and we may be forced to consider whether we shall not soon be required in the sphere of ethics to discourage somewhat the universal tendency of doubt and distrust with reference to elemental convictions. There is no question that for many minds the first doubt as to whether a certain class of acts is wrong was the first step in moral decline. A principle of external authority in ethics is required, although not such an authority as that of the state or an absolute church. What we are in need of is that strength of conviction which would make us willing to die for a belief with reference to the *human* world. If we were more and more given to recognising the value of this other external authority,—that is, the consensus of all the past voices of history when they speak to us on the moral life,—we might find, more and more, that enthusiasm coming back and firing once more the hearts of the great men of the age, just as the other kind of authority gave hope, fire, and enthusiasm to the purpose of Newman. Notwithstanding the contrast between Newman, the apostle of faith, and Emerson who has been called the apostle of scepticism or of individualism, they had the same intensity of feeling and appalling sincerity, and both had a like expression of spiritual repose. A mediocre follower of either of them can never be a satisfactory character. An ultra-individualism in everything enfeebles the will, just as the complete abnegation of the free-

dom of thought dwarfs the intellect. In order to have a perfect solution of the difficulty, we need to draw both from Emerson and Newman.

The Ethics of Socialism. The question may be raised whether the philosophical ground of ethical truth does not afford philosophical standing to some sort of socialism. This view of the problem has evidently pervaded the thinking of Professor Paulsen in his "System der Ethik mit einem Umriss der Staats- und Gesellschaftslehre," and it is prominent in the "Allgemeine Ethik" of D. H. Steinthal. The first question that ought to be raised in regard to socialism is the sociological question, whether society is a product of that universal evolution which brought man himself into existence and conditions all his thought and doings. If so, we may be sure that there are certain general principles, or laws, to which social evolution has conformed in the past, and to which it will go on conforming in the future. The ethical problems involved in the socialistic propositions now before the public may be reduced to two. *First*, if not all men are converted in thought and feeling to socialism, can a majority have any ethical right to compel a minority to surrender individual initiative and submit to dictation of occupation? *Secondly* what is an ethical distribution of product among the workers that create it? Plato and Aristotle alone laid the foundation for a rationalistic argument from purely ethical premises, showing that majorities may rightfully do more than enforce contracts and keep the peace, but the modern restatement and completion of that argument remains to be made. As to the second problem, a strong argument could be made in support of the proposition that an ethical distribution of wealth would be one that should afford equality of satisfaction throughout society, of the desires that are ethically commendable. When the clever literary people hypnotised by Mr. Bellamy's dazzling vision begin to resume their intellectual self-direction, they will discover that equality of income and equality of satisfaction, of legitimate desires, are two different things.

Ethical and Kindred Societies in Great Britain. Speaking broadly the attitude of the societies towards theology and its exponents may be described as one of non-interference or neutrality. They desire to be rather constructive than destructive in their action, for they believe that desirable changes can only be effected by the slow processes of organic growth. With one exception they have none of the characteristics of a church, and they may be described as lecturing and debating societies with or without the addition of what is commonly known as "practical work." They do not retain the services of a single lecturer, but prefer to have speakers who are independent of each other. (Philadelphia: *International Journal of Ethics*, 1602 Chestnut St.)

REVUE PHILOSOPHIQUE. February, 1891. No. 182.

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L'ART ET LA LOGIQUE. (1st Art.) By *G. Tarde*.

MORALE ET METAPHYSIQUE. By *J. J. Gourd*.

ANALYSES ET COMTES RENDUS.

REVUE DES PERIODIQUES ETRANGERS.

SOCIETE DE PSYCHOLOGIE PHYSIOLOGIQUE.

M. Janet remarks, in his article on *Realism and Idealism*, that since Kant philosophy has concentrated all its efforts on the problem of the objectivity of knowl-

edge. The agreement of reality and thought is a truth of which no one doubts, although many centuries were necessary for its observation. Not only is there agreement between nature and mind, but there is analogy, resemblance, affinity, between these two terms. Not only does nature obey the laws of our mind, implying that there is in it a logical and rational element, but it seems to act with the art which intelligence would employ, if it wished to create the products of nature. How is this union of nature and the mind to be explained? Two solutions present themselves: in which thought can be explained by nature, or nature by thought. The first of these solutions is that called *realism*; the second is *idealism*. Each of these systems has strong reasons in its favor. As to the first, thought and nature are not commensurate and opposed. Thought makes itself part of nature, and the only thought we know directly is our own. For human intelligence is bound to the organisation, and appears to follow all its vicissitudes. The basis of idealism is not less firm. External things exist for us only on the condition of passing through our consciousness. Further, the psychological and physiological analysis of sensations reclaims them all as being only states of the ego. But there are serious objections to both hypotheses. Realism is susceptible of two forms. If thought, considered in relation to the origin of ideas, is explained by sensation, it becomes empiricism; if considered in relation to the substratum of thought, this is explained by organisation, it becomes materialism. As against empiricism, may be objected with Kant that sensation does not explain the necessity and universality of scientific judgments. Against materialism, Fichte showed that a thing which is only a thing could never attain to thought. Thus empiricism is overthrown by the impossibility of explaining science; materialism by the impossibility of explaining thought. In order to meet the objection of Kant, and to explain the appearance of *a priori*, the new empiricists have invoked: (1) the principle of inseparable associations; (2) the principle of hereditary associations. On the other side, the new defenders of materialism in order to explain the transformation of motion into thought, have invoked the great principle of the correlation and transformation of forces in nature. But as to inseparable associations, it may be said, that they give us rather a necessity of fact, than a necessity of law. What science requires is absolute and not relative necessity. The same may be said of the principle of hereditary associations, which merely prolong the chain of experiences. But, further, association itself requires explanation, which shows that it cannot account for the principle of causality. As to the use of the principle of transformation of forces to explain the passage of motion into thought, if the objective and physical cause of our sensations is meant, there is merely transformation of motion into motion. If it is said that sensations are only transformed motions, this affirms what is in question, how motion can transform itself into thought. There are no less serious objections against idealism. The principal one is: all our reasonings about nature are established only on condition that we take nature as our basis. We thus reach the double conclusion: neither nature has produced thought, nor thought has produced nature. The ego is, however, in nature, and nature is a representation of the ego, but, while admitting the reciprocal penetration of the two principles, we are obliged to recognise their mutual independence. There is harmony, not identity. But is there not some being in which the real of nature and the real of thought coexist, and who, according to the formula of Schelling, is the absolute subject-object? Idealism, to be consequent, ought to go as far as the absolute consciousness, to the union of the subjective and objective thought. If the two inferior terms are identified in the absolute mind, this will find in nature and in the mind a double expres-

sion of itself. Nothing prevents us then, says our author, from understanding nature, with Schelling, as the drowsy mind seeking to arouse itself, and the ego on the contrary as a nature which awakens itself.

M. Tarde in *Art and Logic* remarks that the word art has two senses. In its wide conception, it includes all the exercises of the imagination and of human ingenuity, invention in a thousand forms. But in another sense of the word, it answers to the æsthetic needs of society. If we had regard only to the art of the most advanced epochs, we should perhaps say that it serves to satisfy the need of inventive expression or of expressive invention. It seems then, in effect, to be before all expressive or inventive, and the second of these traits appears the most essential. The property of art and also of morality is to seek and to believe to find a divine end in life, a great end worthy of individual sacrifice. When art presents itself separated from morality, when it is an agent not of harmony but of social dissolution, it is a sign that it is imported from abroad. Art is then immoral and dissolvent. In all ages truly logical art has been only the translator and the illuminator of morality. . . . The work of art is not like a product of industry, an artificial organ added to the individual, it is an artificial, imaginary mistress. The privilege of art is to arouse in us sentiments which play in the social life and logic, precisely the rôle of love in the individual life and logic. The sentiment of art is a *collective love* and rejoices to be such. Art is social joy, as love is individual joy.

Morality and Metaphysics. Between practical philosophy and theoretical philosophy there is a real difference of nature. The former concerns the action and the latter the perception, and as we cannot do what yet is not, nor see what is already done, the one has relation to the future, the other to the present or the past. With this difference, they resemble each other, in that both consist in a putting in order, a co-ordination of their objects. Experience is sufficient to furnish all that is necessary for the explanation of practical co-ordination. This requires a fundamental notion of practical order, which metaphysicians see in the notion of the good, but, as the reality of the good cannot be established, it is a chimerical and arbitrary conception. We must seek in the co-ordinated objects themselves the fundamental element around which they will be disposed according to their proper nature. This cannot be the good, since this is the result of practical co-ordination. It is pleasure, not a particular kind of pleasure, but that which is possessed in common by all that pleases, all that satisfies. Volition can never go beyond pleasure. If we desire before having really been sensible of pleasure, it is because we have been ideally sensible of it. Pleasure is inherent in every practical function, it is practically constant, it is practically categorical. We cannot go beyond pleasure of some kind. It cannot be said that pleasure is preceded by function, life. These are only results, groups which have components, and therefore they cannot be the last principle of action. Thus one problem is resolved without recourse to metaphysics.—After the principle of simple co-ordination, must be sought that of the co-ordination which subordinates, which marks a sort of hierarchy. For this the idea of pleasure is not sufficient. It is necessary to limit the point of view, and in the difference of quantity of pleasure will be found the rule of co-ordination. The distinction of more or less offers itself at once, and gives place naturally to degrees, then to a subordination. The rule of the good is: the amplitude of the co-ordination, the degree of intelligibility, the number of facts which compose the object of volition. It is necessary to distinguish between urgency and superiority in proper value. Things which are the most urgent have not necessarily the most value in themselves. Thus the practical subordination ought to dispose its objects inversely, according to

whether it is occupied with their urgency or their proper value. Here also practical philosophy is not obliged to have recourse to metaphysics. Practical philosophy not only ought to regulate its objects on the basis that it has previously fixed, but still ought to assure this regulation for the future. This requires that its coördinations should be made objects of commandment, obligation. The conception of the future pleasure enters into the present; and to each volition is bound by anticipation, ideally, but positively, the future benefit of the practical co-ordination. Thus obligation has its source in a volition imposing practical co-ordination on future volitions. Obligation is in reality causal determination, and as there is a volition more or less marked in each act, and the causal chain is never interrupted, we can be said to be always under the influence of obligation, the power of which increases with life. Determination is uniformisation; and nothing else is asked for the moral imperative. Causal determination is opposed directly to the unconditionment of liberty; but obligation, as well as causal determination in general, remains, moreover, in every partial state, limited by its opposite, liberty, which ever recoils before the continual encroachments of obligation, but without ceasing to be. There is no difficulty in admitting a sanction for the good, although it does not constitute a distinct and new element. The sanction is the consequences of actions from the point of view of pleasures. By the side of moral happiness or unhappiness, should be reserved a place for a happiness or unhappiness in some sort "amoral." The moral good does not exhaust all the good. It is necessary to distinguish between the moral good and the unrestrained good (*bien libre*). There is an immoralisable element which represents the veritable autonomy of the will. As in all coördinations, by reason of all bending under the rule, the moral hierarchy will sometimes injure the reality. Here the notion of the unrestrained good happily intervenes. The reality always reserves its rights in the face of co-ordinations, whatever be their nature. When it asserts itself it is sublime, it is, so to say, raised above every rule, majestic in its sovereign liberty. (Paris: Félix Alcan.)

ZEITSCHRIFT FÜR PSYCHOLOGIE UND PHYSIOLOGIE DER SINNESORGANE. Vol. II. Nos. 1 and 2.

CONTENTS:

VERSUCH EINER ERWEITERTEN ANWENDUNG DES FECHNERSCHEN GESETZES IM
FARBENSYSTEM. By *H. v. Helmholtz*.

WAS IST UNSER NERVENSYSTEM UND WAS GEHT DARIN VOR? By *Justus Gaule*.

PHYSIOLOGISCH-PSYCHOLOGISCHE STUDIEN UEBER DIE ENTWICKELUNG DER GE-
SICHTSWAHRNEHMUNGEN BEI KINDERN UND BEI OPERIERTEN BLINDGEBORENEN.
By *E. Raehlmann*.

ZWANGSVORSTELLUNGEN OHNE WAHNIDEEN. By *D. Hack-Tuke*.

EIN VERSUCH UEBER DIE INTRAKRANIELLE LEITUNG LEISESTER TÖNE VON OHR
ZU OHR. By *Karl L. Schaefer*.

BESPRECHUNGEN. Wundt, Ueber die Methoden der Messung des Bewusstseins-
umfanges. By *Schumann*.

LITTERATURBERICHT.

Professor E. Hering introduced the method of defining colors by data of measurement derived from sensations. He thus became the founder of a new conception in Optics which in many respects promises to give more correct and better explanations not only of the physiology of sight but also of the theory of colors;

his views collide however in some important points with the views of the old school, the leader of which is Professor Helmholtz of Berlin. The first article of the present number of this magazine treats of one of these problems, and the author, Professor Helmholtz, believes that the results of his experiments do not show a gradation of the perceptibility of differences which would justify Professor Hering's theory of colors. Professor Helmholtz applies Fechner's law concerning the measurement of perceptible differences to color-sensations. For the experiments he has made, a wheel was employed (after the method of Maxwell) into which slips of colored paper of various breadth could be inserted. He found by this "photometrical" method that "the effect of an additional color upon the luminosity is effectually weakened by the amount of the same color present in the whole mixture. . . . Equal small amounts of the quantity of light produce the smaller effects the larger the quantities of the same light are in the whole field." We pass by other results of Professor Helmholtz's experiments, for it takes a specialist to go over his calculations and tables; and the investigation has by no means been brought to a final conclusion. "If the strong deviation is not based upon an error," Professor Helmholtz says, "quite another and a different hypothesis would come into question, viz. whether it may not always be the clearest sensation which has effect and that which remains below the threshold does not come into consideration." The revision of his "*Handbuch der physiologischen Optik*" has been the occasion for these experiments of Professor Helmholtz.

Professor Gaule of Zurich propounds a most interesting theory about the development of the trophic functions and the chemical actions of the nervous system. He starts with the idea that the processes of the nervous system are in accord with the law of the conservation of energy. Du Bois Reymond's remark that love and hatred, pleasure and pain would remain unexplained even if all the changes that take place in the arrangement of atoms in our nerves were known and mathematically computable, has made a deep impression because it expresses the disparity of our definitions of atoms on the one side and feelings on the other. Yet our atomistic theory is not final; it is only an auxiliary conception which will simplify thought so long as the present method of considering phenomena from a chemical or physical and geometrical standpoint is retained. As soon as we create a common auxiliary conception to comprise all these sciences, we shall have to broaden our definitions. Taking this position as his philosophical basis, Professor Gaule attempts to consider nervous processes as reflex actions, the latter being clearly conceivable as subject to the law of the conservation of energy. Living beings appear as complexes of forces developed from the chemical actions taking place in their organisms. Through a saturation of the affinities of their carbon and hydrogen atoms with oxygen their potential energy is changed into kinetic energy. The latter is used in many various ways, partly for building up more complex molecules, partly for again storing potential energy, and partly,—and this is a predominant process in animal organisms,—for setting forces free which will serve as a source of their activity. It is such a source of activity which the impressions of the outside world affect. The impression is called *Reiz* or irritation, and the irritation has often been compared to the fuse or the spark igniting a powder-mine. We must however bear in mind that the organism is unlike the powder-mine, not at rest but in constant action and the irritation does not properly speaking evoke a reflex but it only modifies the action taking place. All this is generally conceded by the physiologist. Professor Gaule then proceeds to explain his idea of the nervous development. The cells of the epithelium in the skin perform a peculiar process, called

in German *Verhornung*; they turn into horn (keratine) by the protoplasm's losing its albuminoids. The process does not take place in one cell but in several layers of cells and represents like all actions a play of forces, raising the more keratinised strata from the basal membrane to the surface. The keratinising however is, according to Gaule, only the less important surface-phenomenon of another peculiar process which is directed toward the interior of the organism. An excretion takes place forming extremely fine threads around the cells which pass through the pores of the basal membrane (a fact proved by Caninis and Fraenkel) where they form a plexus. Out of the net-like meshes of these plexuses grow increasingly strong filaments which form the trunks of the nerves. These views agree very well with the observations of Professor His on the foetal development of the nerves. Professor His has indubitably proved that the olfactory nerve for instance does not grow out of but into the hemispheres. The direction of the nervous growth is the same as the direction of their function. Many of the sensory nerves have been proven to, and it is probable that all of them do grow from the periphery into the central organ. Hensen in opposition to this has proposed the theory of an original connection between the peripheral root of the nerve and the central organ; yet whatever side of the controversy may be found in the end to be correct, the result does not much affect Professor Gaule's theory, that the ends of the nerves represent the roots from which they grow and every special irritation must specially affect the secretion which forms the nerve. Having been rather explicit in the basal ideas of Professor Gaule's proposition we can now be brief. The axis-cylinder of the nervous fibre corresponds to the secretion of the nervous root; around it is found the marrow-sheath, a tube of absorbing cells containing, also as proved by Ruehne, a net of neuro-keratine; this neuro-keratine again absorbs the axis-cylinder. To the question Why does not the axis-cylinder disappear? Professor Gaule answers, Because it is constantly renewed. Thus we have a constant flow in the nervous substance, an exchange of materials, an absorption, a secretion, and re-absorption; and in this way it can be, a progress of chemical action conditioning the vertical direction of the nerves upon their plexuses and also the form of the marrow-sheath which appears like craters, one inserted within the other and filed upon the axis-cylinder. Professor Gaule proposes no definite opinion as to the development of the motor nerves; he makes some suggestions which need however further explanation and demonstration. He has apparently not yet finished his investigations and we may expect to hear again from him.

E. Raehlmann, Professor of Ophthalmology at Dorpat, presents a résumé of his experiences as to the visual development of persons blind from birth to whom by a successful operation sight had been restored. We confine ourselves to a few quotations. "Four weeks after the operation of the right eye and a fortnight after that of the left, on April 28th, the first experiments were made on Johann Rubens. April 30th, patient moved his head more than his eyes. He declared he saw perfectly; yet he was unable to recognise any object except his drinking mug, which on the previous day he had felt with his fingers. Also his shoe was not recognised until he had touched it. May 4th, patient could see that a wooden ball differed from a wooden cube, both being of the same color, but was unable to tell that one was round, the other square. Nor could he distinguish the ball from a disc. After much handling the objects he learned to recognise by sight the roundness of the ball and the squareness of the cube, but he remained unable to distinguish the ball from the disc. He learned quickly to grasp objects in the median line of his eyes

but had great difficulty in finding them with his hand when placed at an angle before him.

"May 23d, a glass is again presented to the patient; he sees his picture; noticing the frame, he declares the glass to be a picture. (A picture had been presented to him repeatedly.) Now a second face is shown to him in the glass by the side of his own. Patient becomes greatly bewildered, declaring the picture to be familiar to him. Being asked whether it is that of the Professor, he denies the fact, because the Professor stood beside him. Looking over his shoulder he notices the Professor, and seeing him twice he is confounded. . . . Patient is left alone and remains almost half an hour before the glass. He moves his arm constantly up and down, observing with a smile how the picture in the glass makes the same movements. Requested to touch his nose, he first grasps into the glass, then behind the glass, repeating this several times. His hand then is put on his nose. Now he laughs and touches the several parts of his face, constantly observing the motions of his hand in the glass."

Most instructive cases of diseases of mind are those in which patients cannot help having and obeying certain ideas which are not, however, hallucinations. Dr. Hack Tuke in the fourth article of this number says: "I was consulted once in the case of a lady, the most important symptom of whose disease was that she had to count up to a certain number before doing the most trivial thing; when she turned at night in bed from one side to the other, or when she took out her watch, or in the morning before she rose; when she went downstairs to breakfast, she would suddenly stop on one of the steps and count; at the breakfast table when about to take the tea-pot before touching its handle"; etc. (Arithmomania). Another case. "A young law-student who had distinguished himself at school, one day read the English sentence 'it was not compatible' and shortly after that he found the sentence, 'I like it not' in German. It struck him that the negative in the one case was placed before and in the other after the word negated, and he commenced to ponder on negations in general. It became an all-important and all-absorbing problem to him. It kept him from work. For some time he proposed questions to himself like: Why do we not have cold blood like some other animals? etc. He is at present in great danger of becoming undecisive and wavering in his actions, for his passion of ruminating on his problem of negatives weakens his will and threatens to destroy his energy." (Folie du doute.) Esquirol calls cases of *Zwangsvorstellungen*, in which a patient otherwise healthy is forced to pursue a certain trivial thought, "monomanie raisonnée"; Professor Ball, "intellectual impulses." Although hereditary influences most likely play an important part in this disease they seem to originate in emotions, and Régis for this reason calls them "délire émotif," stating that their ultimate cause must be sought in a diseased state of the ganglionic system of the intestines. Dr. Tuke favors Charcot's term "onomatomanie." The disease is a *Wortbesessenheit*, a word-mania. Certain expressions or phrases are pressing heavily upon the patient's consciousness so as to force him irresistibly to think them or to pronounce them again and again. Not all cases can be classified under word-mania, but such cases as doubt-mania (*Zweifelsucht*) or arithmomania are akin to it. Dr. Tuke's advice is not to fight the disease but to teach the patient to ignore it, to treat it as trivial, for the diseased ideas derive new strength from the opposition made to them.

Professor E. Mach explains Weber's discovery that "if a tuning fork is placed upon the head of a person, one ear being shut, the sound is heard and located in the shut ear," in the following way: The sound passes through the bones of the

cranium to the labyrinth of the ear and thence out of the ear into the air, thus taking the inverse direction of other sounds we hear. If the flow in one ear be stopped, the sound-waves are reflected and the drum vibrates stronger. Hence the tone will be heard more plainly in the shut ear and will be located there. Professor Schaefer in the last article of this number describes an experiment in the same line, which in another way—the transmission of sound through air waves being excluded—proves the intercranial conductivity of very weak sounds from ear to ear. (Hamburg and Leipsic: L. Voss.)

SCHRIFTEN DER GESELLSCHAFT FUER PSYCHOLOGISCHE FORSCHUNG. No. 1.

CONTENTS:

DIE BEDEUTUNG NARCOTISCHER MITTEL FUER DEN HYPNOTISMUS. By *Dr. Freiherrn von Schrenck-Notzing*.

EIN GUTACHTEN UEBER EINEN FALL VON SPONTANEM SOMNAMBULISMUS. By *Prof. Dr. August Forel*.

The psychological societies of Munich and Berlin have started under the above title a periodical the first number of which is very promising. Dr. von Schrenck-Notzing makes some critical remarks on Prof. Bernheim's view to consider hypnosis as an increase of suggestibility produced by suggestion. There are observations which do not justify this definition. He then investigates the substitution of narcotics as a means for producing hypnosis and their "suggestive" effects. In the second part of his essay Dr. Schrenck-Notzing speaks about the "suggestive" effects of Indian hemp which in a special preparation under the name of hashish is used in the Orient as a means of intoxication. Reference is made to the Ismaelite secret society "Megalis et Hiemit" (the house of wisdom) consisting of missionaries (*Dais*), adepts (*Fedais*) and laymen (*Refiks*), all of which are bound blindly to obey their grand master (*Dai-al-Doal*). Hassan, an adept of this society, was obliged to flee, 1090, on account of some quarrels. He founded a similar sect at the head of which stood the old man of the mountains (*Shaik-al-Djabal*). Their members, especially the lower classes, the *hashishin*, made themselves formidable in the times of the crusades by their reckless obedience in executing murder and other crimes. The order consisted of 60,000 members and their blind obedience was effected through suggestibility in the state of hashish intoxication. The word assassin is derived from their name. In the year 1255 a Mongolian governor ordered 12,000 hashishin to be executed on account of the dangerous character of their sect. The secret of their formidable obedience appears to have been the method of intoxicating the neophyte before his admission to the order with hashish in some grand mountain scenery and suggesting to him all the pleasures of paradise which he would find in blind faith and unreserved obedience to the old man of the mountain. Contempt of death, insensibility under the severest tortures, and an unspeakable joy in the fulfilment of their leader's command were the result. It can readily be perceived what a dangerous drug hashish is; nevertheless it is said that the cultivation of Indian hemp, especially among some negro tribes of Africa according to the reports of Wissmann, exercises in several respects a good influence. Some of the barbarians of darkest Africa have given up cannibalism and accustom themselves to more civilised habits. The psychical effects of hashish are described as: (1) a feeling of comfort; (2) dissociation of ideas and a lack of their control; (3) illusion concerning

space and time ; (4) an increased sense of hearing ; (5) fixed ideas and delirium ; (6) a disturbance of affective states, e. g. suspicion ; (7) irresistible impulses ; (8) illusions and hallucinations. Dr. v. Schrenck-Notzing freely quotes from Moreau, *Du Hashish et de l'aliénation mentale, Etude psychologique* (Paris : Masson, 1845), and adds several experiments of his own.

Mrs. Fay, a somnambule accused of imposition and fraud, was delivered by the County Court of Zurich to Professor Forel for observation who kept her for several days in his institute. The professor's report to the County Court is very interesting in so far as Mrs. Fay, a woman without education, must be considered as a genuine somnambule exhibiting all the symptoms observed in other cases. She had been a servant girl in Basel and since her fifteenth year fell twice a day in an hypnotic sleep. She married and had several children, her youngest child was born while she was in her hypnotic sleep. She made a living by curing patients who consulted her when asleep, and was punished before on that account for imposition. During one of her hypnotic states patients were introduced to her in the presence of Professor Forel and she made her statements in vague terms as almost all somnambules do. The experiment showed that her diagnosis consisted of random guesses which in exceptional cases happened to be correct; sometimes they were not wholly incorrect, but mostly erroneous. She believes herself to be possessed by a spirit whom she calls "Ernst." Professor Forel without considering the woman as a model of truthfulness, believes in her sincerity. He cured her of her hypnotic sleep on her own request. She stated that the money she earned by curing patients did not make up for the loss she endured by not being able to earn a living by work. Professor Forel succeeded with his cure, but he states in a postscript that the woman having returned to her former surroundings, has since suffered from relapses. (Leipsic : Ambr. Abel.)

PHILOSOPHISCHE MONATSHEFTE. Vol. XXVII. Nos. 3 and 4.

CONTENTS :

QUANTITAET UND QUALITAET IN BEGRIFF, URTHEIL UND GEGENSTAENDLICHER ERKENNTNISS. Ein Kapitel der transcendentalen Logik. (Concluded.) By P. Natorp.

RECENSIONEN.

LITTERATURBERICHT.

BIBLIOGRAPHIE. By Prof. Dr. F. Ascherson.

The conclusion of Prof. P. Natorp's article on *Quantity and Quality in Concept, Judgment, and Objective Cognition* appears to be the most important part of the essay. Professor Natorp is a transcendentalist. He understands Kant in a dualistic sense where the latter says that "the unity of apperception (Einheit der Apperception) is the radical faculty of all our cognition" (Radical-Vermögen aller unserer Erkenntniss). Cognition is defined as "limitation of that which is *per se* infinite. It is natural that for a transcendentalist the greatest difficulty arises when he attempts to let his *a priori* face the facts of reality. Professor Natorp shows great skill and ingenuity in this respect. It is but consistent with his premisses to arrive at an "invincible dualism," yet he adapts his transcendentalism sufficiently to fulfil the demands of experience. Thus he does not come to a real solution but to a *modus vivendi*, which is after all the purpose of philosophy.

Professor Natorp considers the synthetic unity not as given, but as to be realised; a concept is created through definition. The data of experience on the other hand are not the defined, but the definable. They are to be defined by the forms of the concepts, and their fundamental forms are quantity and quality. He says: "The definition as this and as that (as something identical) is a function of the concept, but the concept presupposes sensation as the material to be defined. To consider sensation as given in this its absolute identity which is demanded by the concept, is after all an illusion. Therefore positivism and not idealism confounds the demands of cognition with the given reality, thus adjusting facts to our wants of knowledge. Sensation conceived as a datum and not as a postulate is and remains the infinitely definable and never absolutely defined. . . . It appears easy thus to reduce the dualism of form and matter, concept and sensation, the defined and the definable to one ultimate unity. In one respect positivism succeeds, attributing full definedness, and not mere definableness, to the data; and then, it finds no difficulty in letting the defining function of the concept in its peculiarity disappear by reducing it to a quality of the data."

We do not know to what kind of positivism Professor Natorp refers; yet it seems that it cannot be applied either to Comte's or to Littré's views. Nor does it dispose of the positivism editorially set forth in *The Monist*. Positivism, according to Professor Natorp, is at fault in dropping the definite function of the concept. But he endeavors to avoid the opposite mistake also, viz. "to entirely drop the definable, which might be supposed to be a mere *X*, scarcely representable in clear concepts, or to deduce it from the defining function. This other exaggeration is that of idealism which has found its purest expression in Fichte's philosophy." Professor Natorp by keeping aloof from both errors declares dualism to be insuperable; "dualism," he says, 'is a hard fact'—*eine starre Thatsache*."

The trouble with transcendentalists, it seems to us, originates in their method of starting with cognition, with the synthetic unity of apperception, with the forms of concepts. Experience means to them the sense-element of sensation, the contents of concepts without their form. They start with a dualism. When they have completed their system of transcendental forms, they find it hard to explain how to change their rigid laws into the constant flux of reality as presented to us by experience. Should the philosopher not rather start from the function of cognising, which in itself is a unity? He will find that cognition, concept, the synthetic unity of apperception, and all the complex laws of transcendental thought are products of the cognising function. If these laws are rigid, we have made them so. We have made them stable, we have fixed them for a certain purpose. Their rigidity is a legitimate fiction for that purpose, but beyond it it finds no application. Pure logic draws distinctions which do not exist in reality; pure mathematics operates with lines which considered as real things are mere nonentities. The dualism between concept and sensation, between the *a priori* and the *a posteriori*, between thought and thing, between form and matter, is not given in experience, for in experience the formal and the material are one inseparable whole; it is the product of cognition. The cognising function differentiates the data of experience into formal and material aspects; the formal being always of a general character serves as a help for systematising and classifying the material. This appears to us the only way of realising a monistic positivism, and no philosophy can be considered as satisfactory until it represents the data of experience or positive facts in a unitary view, i. e. a harmonious conception free of contradictions.

Professor Natorp has still to battle with the Eleatic question. He begins the

conclusion of his article with the following words: "Let us consider only the most 'important results of our deduction. An explanation of 'becoming,' of 'change' has in 'this way become possible; the solution of the Eleatic problem how 'change' can be 'at all, since *being* means unchangeable definedness; or, how becoming can be, since 'it includes not-being, for being means the transition from not-being into being, or 'from being into not-being. How can we think this combination of position and 'negation without contradiction, a combination of position and negation being a contradiction"? This is rather a late flower of Hegelian thought: but, being presented so vigorously and unequivocally, it illustrates clearly the mistake of transcendentalism in starting from abstract concepts or pure thought, thence coming down to the facts of reality. There transcendentalists have to fit their ideas about being and not-being to experience, and finding insuperable difficulties must consistently become dualists. Professor Natorp's solution of the Eleatic question is "to find a method of thought which overcomes the absolute contradiction of position and negation. . . . This is done by the comprehensive unity, which means identity and at the same time difference, viz. that one is the same as the other and yet not the same."

We should say that the Eleatic question will best be understood by a clear comprehension of the function, the purpose, and the products of cognition.

Says Professor Natorp: "Since Kant has restored in its purity the distinction 'made by the ancients between *αἰσθητά* and *νοητά*, *φαινόμενον* and *νοούμενον*, the authors 'of this distinction, the philosophers of Elea are almost nearer to us than Aristotle." The distinction between thought and sensation is indeed of extraordinary importance. Ideas (thoughts) and sensations are different, but the recognition of this difference is no reason to declare dualism as permanently established. Is not the reason of their difference the difference of abstraction made in each case.

By noumena, i. e. thoughts or ideas, we understand all mental symbols representing things. The ideas "man," "manhood," "virtue," etc., are not sensations, but symbols representing some qualities abstracted from sensations. In making the abstraction "idea" we confine the term, i. e. the symbol "idea," to its representative element alone. We leave out of sight that real ideas vibrating through our brain are at the same time nervous structures in actions; we leave also out of sight that they possess the state of awareness in common with sensations. We do it because their representative nature is of paramount importance. However, in making the abstraction "sensation" we do not exclude the state of awareness, we think first of all of the feeling of a sensation and then also of its form, viz. the special sense-impression. "I have a sensation" is almost equivalent to the phrase "I have a feeling"; a sensation of light means a feeling of the effect of ether-waves upon the retina; a sensation of sound is a feeling of the effect of air-waves upon the drum of the ear; etc. Just as much as ether-waves are not light, and air-waves not sound, (the latter being the effect of the former upon specially adapted feeling substance), so also the sensations light and sound are not the ideas we have of light and sound. The ideas of light and sound are symbols representing in feeling substance the sensations light and sound. These symbols, we suppose, have developed from the memory-images of sensations. They must in their turn also be considered as effects. They are the effects of sense-impressions upon specially adapted feeling substance, viz. upon a higher system of nervous structures, not in direct contact with the periphery, but growing upon and from the peripheral sensory reflex centres. The physiological activity of thoughts is accompanied also with the feeling element; or in other words, thoughts are, as much as sensations, states of awareness. Yet they differ from sensations in that they do not

contain anything of sense-impressions; the latter being an exclusive characteristic of the action of sensory organs. The memory-picture of blackness is not a sensation and the idea of blackness still less.

The distinction between noumena or things of thought and æstheta or sensations is by no means so distinct as is often assumed; for, as we have seen, the most prominent feature of the noumenon is its representative character. Isolated sense-impressions possess no representative character, but sensations do possess it. Sensations are the connecting link between sense-impressions and thoughts, between meaningless feeling and mental states or mind, i. e. representative states of awareness. Ideas are, as it were, an extract of the representative value contained in sensations. This is my conception of the distinction to be made between *αἰσθητά* and *νοητά*, between sense-activity and thought-activity, between the phenomenon and noumenon. It is set forth at length in the discussion with Professor E. Mach in this number. It has been here again set forth at such length, because I am convinced that a final solution of the problem is of great importance. (Heidelberg: George Weiss.)

κ.

MINERVA. Rassegna Internazionale. January, 1891.

Minerva will represent the first Italian venture in the direction of a comprehensive magazine of international reference and literary record. The editors, in stating the aims of their new publication, acknowledge that Italy keenly feels the lack of an international intellectual magazine. In Italy the reading public, and persons of an average culture, still seem to be cut off from all stimulating intellectual contact with the outside civilised world; while beyond the Alps, on the contrary, and across the seas, any book, or a simple magazine-article even, be it written in German, English, or French, and legitimately claim from any point of view a certain importance, is at once read by innumerable persons from San Francisco all the way to St. Petersburg. Through the intellectual medium of their international reviews, these nations seem actually to have realised one of Goethe's most ardent aspirations,—the dream of a noble and humanising "world-literature." Nearly all of the articles contained in the present issue of *Minerva* are ably condensed translations and epitomes of articles that have recently appeared in leading English, American, and German reviews and magazines. *La Minerva* is under the direction of Prof. Federico Garlanda of the University of Rome. (Rome: La Società Laziale. Tip Editrice.)

VOPROSY FILOSOFII I PSICHOLOGII.*

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Russia is perhaps that country of all civilised nations of which we know least, and even such authors as Tolstoï who are read all over the world, are perhaps, severed from their surroundings, not correctly understood by us as the Russian understands them. The present magazine, *Problems of Philosophy and Psychology*, being a strictly scientific periodical, is less peculiarly Russian without entirely losing the national characteristics of its home. The intention of the editor has been to develop and to give a chance for a further development of an independent Russian philosophy. The philosophy of the West, we are informed, does not satisfy the Russian mind; the English philosophy is one-sided empirical, the French mathematical, the German too abstract and logical. The Russian philosophy aspires to bring about a well-balanced and harmonious method of thinking in which reason, sentiment, and action—science, art and religion—are reconciled. Professor Grote, the editor of *Problems of Philosophy and Psychology*, by placing the ethical interest in the foreground, hopes that Russian philosophy will become "the salvation of the world from evil."

Among the book reviews we find six pages devoted to *The Ethical Problem*, by Dr. Paul Carus, a translation of which was made for us by Prof. A. Gunlogsen of Chicago. We find however that the reviewer, Mr. P. Astafiew, mixes the position of the author up with that of the societies for ethical culture. If he represents the Magazine's view of reconciling Science, Art, and Religion, it is sure that Religion in the shape of his peculiar creed would get the lion's share. The interest of the little book consists to him in the fact that it clearly characterises a singular anarchical condition; by having lost the old faith, it is utterly unable to replace it. It is an assumption to base ethics and religion on positive and scientific foundations; yet the attempt is curious as a symptom of the times and especially of "enlightened" America.

In answer to one of the most important errors in Mr. Astafiew's review, we have to state that basing ethics upon the facts of life, verified and verifiable by science, does not mean that we have to study psychology in order to be moral. A man can lead a moral life without understanding anything of ethics, the science of morality. Ethics is not an indispensable condition of morality. But it is of paramount importance that ethics—as a science—is not an impossibility. The data of moral life, the impulses of duty, of conscience, of the ought, are not mystical or supernatural, i. e. extra-natural, standing in contradiction to other natural facts; they are not, as the intuitionists maintain, "unanalysable," they are not, as Professor Adler, the founder of the Ethical Societies declares, beyond the pale of science; "the ladder of science," he says, "does not reach so far." The data of moral life are facts of the natural development of man and of human society; they can be investigated by science, they can be compared with other natural facts, they can be classified and understood.

A man can throw a stone without understanding anything of Newton's laws, he can build a hut without understanding architecture. Yet for that reason the study

of ballistics and of architecture are not useless. The man who has studied architecture may bridge the Niagara, which the mound-builders were unable to do. And if a bridge breaks down while the mounds of the mound-builders are still standing, it proves nothing against architecture. An ethical student may have proposed untenable theories in ethics, he may have preached a wrong morality, and may have gone astray himself : all that would prove nothing against the science of ethics. It is to be expected that ethical knowledge, if it leaveneth the whole lump of human society, will raise man's moral life higher, as surely as our knowledge of architecture made it possible that we now build palaces upon the places where in former times stood the wigwams of the Indians. (Moscow, 1891.) K.